independent data. **CONCLUSIONS:** We found several well-designed models for different CML treatment strategies. However, the quality of reporting varied substantially. We recommend that future models should include novel treatment options, subgroup evaluations for a more personalized decision making, and validation using independent data. Already available models with a short time horizon could be updated with new survival data.

PCN162

EXTRAPOLATION IN TRIAL-BASED COST-EFFECTIVENESS MODELING: IN SEARCH OF A STANDARD

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BACKGROUND: Extrapolation is often a key element in health economic modeling. Although any model should use empirical data if possible, the effects of treatments on long-term health outcomes are seldom observed within the follow-up time of a clinical study. Extrapolation over a lifetime horizon will generally be required in economic models where treatments have different cumulative survival at the end of the clinical trial. Typically, a within-trial analysis of costs and health effects, in which outcomes are truncated at the conclusion of the trial, will be overly conservative. **OBJECTIVES:** The purpose of this study is to compare different methods of extrapolation in the context of examples concerning oncology, although the principles apply across all therapeutic areas. **METHODS:** There is a set of standard assumptions regarding extrapolation of survival data from clinical studies, ranging from very cautious ("stop-and drop") to very optimistic ("continued benefit"). The impact of different assumptions regarding extrapolation is explored, and the implications are discussed. **CONCLUSIONS:** The choice of extrapolation method has significant impact on comparative clinical effects, costs, and cost-effectiveness. Based on our findings and supporting examples, we propose the following: 1) Analysts should perform and report results under a range of specific standard extrapolation assumptions to increase comparability across studies. 2) The choice of a base-case approach in any particular study should be guided by knowledge about the biology of the indication under evaluation and the mechanism of action of the treatment. A case could be made for a reference case method of extrapolation, but we believe that sensitivity analysis across a standard set of possibilities is sufficient. Adherence to these modeling practices will contribute to increased transparency in modeling and hence potentially to a greater confidence among health-care decision-makers in the results from cost-effectiveness analyses building on modeling and extrapolation.

PCN163

EXTENDING FIXED EFFECT MODELS TO CENSORED COST DATA

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OBJECTIVES: Challenges in analyzing cost data include addressing skewness in cost distributions, observed and unobserved heterogeneity across samples, and even more challenging complexities due to censoring. We combined generalized random effect models with inverse probability weighted (IPW) estimation techniques to address those challenges in a single model. **METHODS:** Generalized fixed effect models have been used with weights that are calculated as inverse due to probability being uncensored. The Gaussian family and log link function was chosen and we applied a test to see if possibly censoring bias exists. We also calculated the deviation from the consistent value if standard pooled ordinary least squares were used. **RESULTS:** A total of 4824 observations were used in the analysis. We obtained Medicare claim files for the 2 years following patients' lung cancer diagnosis. Costs had high kurtosis and skewness. Moreover, 30% of the cases were censored, and therefore, their annual costs were not observed. The total cost of all care was $63,000 for the 2 years following a lung cancer diagnosis and $57,000 for incomplete cases. Results significantly diverged from the standard regression model ($P = 0.000$). **CONCLUSIONS:** This paper applied inverse probability weighted estimation and fixed effect panel data models to an inception cohort of patients newly diagnosed with lung cancer. Our findings suggest that standard regression models yield inconsistent estimators due to censoring bias. The IPW least square estimation method removes that bias.

PCN164

THE ECONOMICS OF CHRONIC MYELOGENOUS LEUKEMIA: A COMPARISON OF MODELING APPROACHES

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OBJECTIVES: Chronic myelogenous leukemia (CML) is a progressive disease which arises from damage to the DNA of a stem cell in the bone marrow. This results in the uncontrolled growth of white blood cells which, in turn, can lead to severe impairment of an individual's functioning. The National Institute for Health and Clinical Excellence (NICE) models the costs and benefits of medicines. The structure of these models is not prespecified and wide variations are often observed, both in the model's choice of input parameters and in the structure of the modeling approach. While there is no such thing as a "correct" model, it is important that different models are compared and critiqued in order to identify any particular strengths and weaknesses of differing approaches. **METHODS:** A review was undertaken, identifying existing published models for CML. The data sources and choice of inputs were compared across each model and presented in a comparative table. Furthermore, the different approaches to model structure were examined, and attempts were made to explore the consequences of each approach on the models, costs, effectiveness, and cost-effectiveness findings. **RESULTS:** The approaches to modeling CML vary significantly between different studies. While different data sources are utilitized in each model, this can usually be explained by emerging data which were not available to other researchers. However, the overall approach to modeling the disease varied considerably across each study. Model structures and assumptions for long-term outcomes were key drivers of the cost-effectiveness results in each model, but were often based on contrasting and contradicting approaches. **CONCLUSIONS:** This review has highlighted significant variation in approaches to modelling CML. It is recommended that long-term follow-up from previously published trials should be used to predict the likely outcomes associated with shorter-term outcomes, such as treatment response.

PCN165

INFLATION ANALYSIS AS A TOOL TO ASSESS COST-EFFECTIVENESS OF CANCER TREATMENT

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OBJECTIVES: Cost-effectiveness of chronic diseases drug-therapy is estimated with the help of various pharmacoeconomic analysis methods. Cost-effectiveness analysis, cost minimization analysis, cost-utility analysis, and cost-effectiveness analysis are used most often. We have proposed a modification of the cost-effectiveness analysis, which makes possible to record patient's losses during treatment. Inflation coefficient K and its average value—Kmed may be more reliable tool in assessing the cost-effectiveness of treatment of recurrent disease. **METHODS:** Formula evaluation of the effectiveness can be expressed as Kt ¨T DC(M/Nt), where k—coefficient of effectiveness of treatment at time t DC—amount invested in the treatment of one person M—number of patients in the beginning of treatment (original group) N—number of patients at the time T t—regular interval, running on the account (month, day, year, etc.) **RESULTS:** Analysis of the coefficient K shows a tendency to increase with an increase in DC price for the treatment or—on decreasing the number of patients N, remaining in the group. As the period t becomes longer, entire formula is decreasing (inflation). The average coefficient k meaning is calculated according the formula Kmed ¨T $\sum$ Kt/t. Coefficient shows the average cost of one free of recurrence month in one patient from the group. The number of patients in group N decreases as a disease recurs, which leads to Kmed increase because of reallocating funds spent on chronic patients for the rest of patients. **CONCLUSIONS:** The study of economic efficiency through inflationary coefficient K, we have proposed, is a sensitive method for estimating treatment costs, and may prove to be a reliable tool for cost-effectiveness analysis of chronic patient drug therapy.

PCN166

DEVELOPMENT OF A FLAG SYSTEM FOR THE COMPUTERIZED DETECTION OF CANCER PATIENTS WITH ADDITIONAL TREATMENT NEEDS BY MEANS OF THE "COMPUTER BASED HEALTH EVALUATION SYSTEM" (CHES)

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OBJECTIVES: Studies evaluating computer-aided routinely assessment of patient-reported outcomes (PRO) suggest important benefits for physicians, patients, and their treatment. This project's aim was developing a flag system for computerized detection of cancer patients with additional treatment needs. **METHODS:** The detection system is part of the "Computer based Health Evaluation System (CHES)," a software for the computerized collection, processing, and presentation of PRO data. The flag system helps identify cancer patients with conspicuous subscale patterns. This includes cutoff values (patients marked with orange or red buttons) and significant changes over time (yellow deltas). The testing data set was derived from a longitudinal study on QOL (assessed using the EORTC QLQ-C30) in chemotherapy patients at an oncological outpatient unit. Several criteria of "relevant" changes were compared regarding the prevalence of such changes in the study population and their statistical significance on an individual patient level. **RESULTS:** QOL data of 167 cancer patients were analyzed (on average 5.3 assessments per patient). The 75th and 90th percentile showed to be useful cutoff values. Recommended thresholds of relevant QOL changes appear to be unduly low when considering changes in the individual patient. Based on empirical data, we suggest a modified criterion of relevant change for the EORTC QLQ-C30 which appears clinically and statistically more meaningful. **CONCLUSIONS:** The developed flag system enables physicians to detect patient-reported health deficits (e.g., fatigue) at one glance. However, more research involving various diagnostic groups is needed for a more profound empirical basis for developing refined criteria.